

PROCESS FOR PRODUCING MAGNETITE PARTICLES

ABSTRACT OF THE DISCLOSURE

This invention relates to a process for producing magnetite particles having a coercivity of 6.366 kA/m to 10.345 kA/m (= 80 to 130 Oe) and an octahedral particle shape, comprising heating an alkaline component and an iron(II) component in the form of an aqueous solution to a temperature of 50°C to 100°C, whereby the molar ratio of iron(II) component to one equivalent of alkaline component is 0.38 to 0.45, and treating the suspension with an oxidizing agent at a rate of oxidation of 20 to 50 mol.% Fe(II)/h until the iron compound has an Fe(III) content of more than 65 mol.%, and then again adding an Fe(II) component in the form of an aqueous solution at a molar ratio of Fe(II) to one equivalent of total alkaline component used is 0.47 to 0.49, and treating the suspension with an oxidizing agent, at a rate of oxidation is 20 to 50 mol.% Fe(II)/h until the iron compound has an Fe(III) content of more than 65 mol.%, and filtering the suspension, and washing, drying and grounding the residue.